

# Summary

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# Overview

## ❑ Safety

- Vaccine Adverse Event Reporting System (VAERS)
- Recent studies
- WG conclusions

## ❑ AVA PrEP Indication Change - 2012

## ❑ Route of Administration

- Operational Considerations
- Reactogenicity
- Immunogenicity studies
- WG conclusions

# **Summary: Safety**

# Summary: AVA Safety

- ❑ **During January 1, 2009 – June 30, 2017, 2439 non-duplicate reports following AVA receipt submitted to VAERS**
  - Most commonly reported AEs were injection site reactions at ~10-15%
  - Systemic AEs included headache, fever, fatigue, and arthralgias at ~10%
  - 329 (13.5%) were considered serious†
- ❑ **A review of VAERS reports in persons who received AVA revealed no unexpected patterns or unusual events**

† Serious reports are coded as such based on Code of Federal Regulations if they result in: death, life-threatening illness, hospitalization, prolongation of hospitalization, persistent or significant disability, congenital anomaly

# Recent studies on AVA safety

Study	Study Design (# Participants)	Measure(s)	Outcome
Phillips CJ. <i>Vaccine</i> . 2009	Cohort study (1497)	Develop Squalene Antibodies	No association between squalene antibody status and chronic multi-symptom illness
Sulsky SI. <i>Vaccine</i> . 2011	Cohort study (1,001,546)	Disability Risk	AVA not associated with differences in risk of disability
Sulsky SI. <i>Vaccine</i> . 2011	Case-control study (154,780)	Disability	No association between receipt of AVA and long-term disability
Stewart B. <i>Vaccine</i> . 2012.	Randomized controlled trial (1562)	Health-Related Quality of Life	No association between receipt of AVA and quality of life over a 42-month period
Duderstadt, SK. <i>Vaccine</i> . 2012	Retrospective population-based cohort (2.3 million)	Type 1 Diabetes	No increased risk for AVA and type 1 diabetes
Conlin AM. <i>Vaccine</i> . 2015	Retrospective cohort (126,839)	Birth Defects	No associations between AVA vaccination during pregnancy and birth defect risk
Bardenheier BH. <i>Military Medicine</i> . 2016	Matched case-control (463)	Rheumatoid Arthritis (RA) Systemic Lupus Erythematosus (SLE)	AVA associated with recent onset but not long term RA No association with SLE

# Work Group Discussions – AVA Safety

- ❑ No new safety concerns since December 2008 based on updated VAERS review and a review of the published literature
- ❑ Data support safety of AVA for use as pre-exposure and post exposure prophylaxis given high mortality associated with anthrax
- ❑ More data are needed to evaluate safety in pediatric populations
- ❑ The benefits of post-exposure vaccination by preventing deaths in children potentially exposed to *Bacillus anthracis* spores outweigh the risk of vaccination

# **AVA PrEP Indication Change - 2012**

## **AVA PrEP Indication Change - 2012**

- ❑ **FDA licensed AVA priming schedule was simplified from 5 IM doses over 18 months to 3 IM doses over 6 months**
  - Vaccine recipients are considered protected after the 6 month dose
  - Priming completed 12 months sooner than previous licensure
  - Major impact on time to deployment or approval to work for emergency responders and laboratory workers
  
- ❑ **Dosing schedule for primary series will be updated in revised recommendations**



# **Summary: Route of Administration**

# WG Considerations for Route of Administration

- ❑ Operational considerations for mass vaccination following wide-area release of *B. anthracis* spores
  - Lack of sufficient 5/8” needles to administer AVA subcutaneously
  - Potential errors due to having two vaccines for PEP with different routes of administration
  - IM administration might be more efficient in a mass vaccination campaign
- ❑ Adverse events were significantly higher in several parameters via SC route of administration
  - Adherence to vaccine might be higher if given by IM route, but no data to support
- ❑ Data suggest adherence to antimicrobial component of PEP may drop by 25-50% at four weeks
- ❑ Antibody titers are significantly higher at 4 weeks for SC versus IM administration
  - By week eight there is not statistical difference

# Work Group Conclusions

- ❑ At this time, ACIP Anthrax Vaccines WG does not propose a change to the current licensed route of administration of AVA for PEP
- ❑ Work Group is in agreement that obtaining the optimal immune response outweighs operational concerns and higher injection site reactogenicity rates seen with SC administration unless there is definitive evidence the SC route would significantly reduce compliance
- ❑ If AVA is inadvertently given IM, there is no need to readminister the dose by the SC route; the corrective action is to complete the rest of the series SC

# Discussion